ABSTRACT OF THE DISCLOSURE

The invention provides a system and method for performing convolution in a single channel of a vector processing computer system. The invention takes advantage of the parallel computing capability of the vector processing system and the distributed properties of the discrete-time convolution sum by performing convolution on portions of an overall data stream, or data chunks, simultaneously. Partial solutions are thereby obtained and superimposed to achieve an overall solution data stream. To simplify the convolution sum and eliminate the need for calculating products, an embodiment of the invention utilizes a specialized data signal or vector in the convolution operation. Specifically, a specialized vector comprising a series of ones may be used to simplify calculations.